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| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.            | CONFIRMATION NO.       |
|---|-------------|----------------------|--------------------------------|------------------------|
| 10/750,618  | 12/31/2003  | Kenichi Kazama       | KON-1712A (Div)                | 8941                   |
| 20311 7590 12/12/2007<br>LUCAS & MERCANTI, LLP<br>475 PARK AVENUE SOUTH<br>15TH FLOOR<br>NEW YORK, NY 10016 |             |                      | EXAMINER<br>HUSON, MONICA ANNE |                        |
|   |             |                      | ART UNIT<br>1791               | PAPER NUMBER           |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/750,618

**Applicant(s)**

KAZAMA ET AL.

**Examiner**

Monica A. Huson

**Art Unit**

1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 15-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 10066493.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

This office action is in response to the paper filed 24 September 2007.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 15-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Michihata et al. (EP 1 033 592). Regarding Claim 15, Michihata et al., hereafter "Michihata," show that it is known to carry out a method for making a cellulose ester film having a dry thickness of 20 to 60um (p0050), the process comprising providing a cellulose ester dope (p0010); casting the cellulose ester dope on a support to form a cellulose ester web (p0010); peeling the cellulose ester web at a peel position from the support (p0010); transporting the peeled web to a dryer (p0010); drying the peeled web therein to form a cellulose ester film (p0010); and winding the cellulose ester film around a spool, the residual solvent content at the winding step of the cellulose ester film being not more than 2wt% (p0010). Although Michihata does not specifically show a residual solvent content of less than 0.05wt%, a prima facie case of obviousness exists in the case where the claimed ranges overlap or lie inside ranges disclosed by the prior art (MPEP 2144.05). Therefore, It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use a range within Michihata's residual solvent range during his molding method in order to fine-tune his process or adjust final article variables which depend on the residual solvent content.

Regarding Claim 16, Michihata shows the process as claimed as discussed in the rejection of Claim 15 above, including showing a method wherein the difference between the maximum residual solvent content and the minimum residual solvent content in the transverse direction of the cellulose ester film is not more than 2wt% (p0010; it is being assumed that the residual solvent is the same amount in any measured direction). Although Michihata does not specifically show a residual solvent content of less than 0.02wt%, a prima facie case of obviousness exists in the case where the claimed ranges overlap or lie inside ranges disclosed by the prior art (MPEP 2144.05). Therefore, It would have been prima facie obvious to one of

ordinary skill in the art at the time the invention was made to use a range within Michihata's range during his molding method in order to fine-tune his process or adjust final article variables which depend on the residual solvent content.

Regarding Claim 17, Michihata shows that it is known to carry out a method for making a cellulose ester film having a dry thickness of 20 to 60um (p0050), the process comprising providing a cellulose ester dope (p0010); casting the cellulose ester dope on a support to form a cellulose ester web (p0010); peeling the cellulose ester web at a peel position from the support (p0010); transporting the peeled web to a dryer (p0010); drying the peeled web therein to form a cellulose ester film (p0010); and winding the cellulose ester film around a spool, wherein the peeled web is transported through a transport device from the peel position to a tension changing device nearest the peel position at a tension of less than 250 N/m, the tension changing device being located between the peel position and the spool (p0010). Although Michihata does not specifically show a tension of between 10 to 80 N/m, a prima facie case of obviousness exists in the case where the claimed ranges overlap or lie inside ranges disclosed by the prior art (MPEP 2144.05). Therefore, It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use a range within Michihata's tension range during his molding method in order to fine-tune his process or adjust final article characteristics which change as a result of the tension during processing.

Regarding Claim 18, Michihata shows the process as claimed as discussed in the rejection of Claim 17 above, including showing a method using a tension of less than 250 N/m (p0010). Although Michihata does not specifically show a tension of between 10 to 50 N/m, a prima facie case of obviousness exists in the case where the claimed ranges overlap or lie inside ranges disclosed by the prior art (MPEP 2144.05). Therefore, It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use a range within Michihata's tension range during his molding method in order to fine-tune his process or adjust final article characteristics which change as a result of the tension during processing.

Regarding Claim 19, Michihata shows the process as claimed as discussed in the rejection of Claim 17 above, including a peel position relative to a tension device (p0010). Although Michihata does not explicitly teach a distance of 2-90 m between a peel position and a tension device, it would have been obvious to one of ordinary skill, however, given the spatial distribution of rollers described in paragraph 0084, that a roller driven in a manner to tension the web could be positioned at any of the positions as drawn, and that such a positioning would implicitly fall within the broad range of 2-90m.

Regarding Claims 20 and 21, Michihata shows the process as claimed as discussed in the rejection of Claim 17 above, including a method wherein the transport device uses rollers

(p0084; it is being interpreted that a guide or tendency roller includes any roller used in plastics processing), meeting applicant's claim.

Regarding Claims 26, and 27, Michihata shows the process as claimed as discussed in the rejection of Claim 15 above, including a method wherein the residual solvent content at the winding step of the cellulose ester film being not more than 2wt% (p0010). Although Michihata does not specifically show a residual solvent content of less than 0.05wt%, a prima facie case of obviousness exists in the case where the claimed ranges overlap or lie inside ranges disclosed by the prior art (MPEP 2144.05). Therefore, It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made to use a range within Michihata's residual solvent range during his molding method in order to fine-tune his process or adjust final article variables which depend on the residual solvent content.

Claims 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Michihata, in view of Knoop (U.S. Patent 4,664,859), and further in view of Roerty et al (U.S. Patent 5,862,946).

As required by claim 22, Michihata teaches providing a dope composition and casting it onto a belt casting apparatus to form a web (p0010). Michihata further teaches peeling the web from the belt and transporting it to a drying section to form a dry film before winding on a roll (p0010). Michihata still further teaches preparing the dope by mixing with an organic solvent (p0029). Michihata still further teaches heating the dissolution mixture under pressure (in a sealed vessel) to above the boiling (BP) of the solvent (p0072-0073).

Michihata does not teach unsealing the mixture for  $\geq 6$  minutes and resealing it thereafter, as required by claim 22.

Knoop teaches venting a polymer solution to degass it after heating while taking care to process the degassed solution within a closed system closed to atmospheric exposure, effectively within a sealed environment. See lines 5-55 in column 7.

Michihata and Knoop are combinable because they are concerned with a similar technical field, namely, solvent casting. One of ordinary skill in the art at the time of the invention would have found it obvious to include the atmospheric restriction as taught by Knoop in the dissolution method of Michihata. The motivation to do so would have been to eliminate air bubbles. See lines 43-50 in column 7 of Knoop.

Michihata/Knoop do not teach reheating the mixture to above the solvent boiling point after venting, as required by claims 22 and 24, and retaining it thereafter at pressure, as required by claim 24.

Roerty et al, hereinafter "Roerty", teaches that a gas phase is more readily dissolved in a liquid phase when under pressure. See lines 55-60 in column 4. It would have been obvious to one of ordinary skill that a second heating to above the boiling point in a sealed environment would create the pressure necessary to dissolve any remaining entrained gas, thereby removing the potential for any residual bubble formation.

Because the solution is ultimately delivered to the die in a degassed state without further exposure to air, and under influence of pressure, there will be no bubbles in the casting, as required by claims 23 and 25.

Michihata/Knoop and Roerty are combinable because they are concerned with a similar technical field, namely, solvent casting. One of ordinary skill in the art at the time of the invention would have found it obvious to include the pressure dissolution teaching of Roerty in the casting method of Michihata/Knoop. The motivation to do so would have been to eliminate bubble formation in the film. See lines 43-50 in column 7 of Knoop.

#### ***Response to Amendment***

The declaration under 37 CFR 1.132 filed 24 September 2007 is insufficient to overcome the rejection of claims 15-27 based upon Michihata as set forth in the last Office action because: the results shown in the declaration are not "unexpected"; there is a direct and predictable relationship between the increase or decrease of residual solvent (or peeling tension) and the increase or decrease, respectively, of the resulting article properties.

#### ***Response to Arguments***

Applicant's arguments filed 24 September 2007 have been fully considered but they are not persuasive.

Applicant contends that Michihata does not show the instant invention because he does not specifically show 0.05 wt % of residual solvent; Michihata shows using up to 2 wt % (broadly) and 0.2 wt % (specifically) of residual solvent. This is not persuasive *because* although Michihata shows a broad range of 0-2 wt % residual solvent, by his example using 0.2 wt % residual solvent, he clearly suggests that using percents significantly less than his broad upper limit of 2 wt % is known in the art. It is maintained that choosing a residual solvent of 0.05 wt % from a teaching of using 0.2 wt % would have been an obvious experimental choice that does not yield unexpected results.

Applicant contends that Michihata does not show the instant invention because he does not specifically show using up to 80 N/m peeling tension; Michihata shows using up to 250 N/m (broadly) and 150 N/m (specifically) of peeling tension. This is not persuasive because

although Michihata shows a broad range of 0-250 N/m peeling tension, by his example using 150 N/m peeling tension, he clearly suggests that using values less than his broad upper limit of 250 N/m is known in the art. It is maintained that choosing a peeling tension of 80 N/m from a teaching of using 150 N/m would have been an obvious experimental choice that does not yield unexpected results.

Applicant contends that Michihata, Roerty, and Knoop do not suggest the instant invention because Roerty's reheating under pressure will produce undesirable air bubbles and therefore teaches away from the instant invention. This is not persuasive because Roerty specifically teaches that due to the heating being *under pressure*, the gas will dissolve into liquid form (not gas). Therefore, it is maintained that Roerty teaches an appropriate reheating step wherein an entrained gas bubbles will be removed/dissolved into liquid form. Although applicant's reheating step is not carried out to dissolve any remaining gases, the reason or motivation to modify the reference may often suggest what the inventor has done, but for a different purpose or to solve a different problem. It is not necessary that the prior art suggest the combination to achieve the same advantage or result discovered by applicant (See MPEP 2144).

Applicant contends that Michihata, Roerty, and Knoop do not suggest the instant invention because Knoop places the mixture into a holding tank after degassing, supposedly teaching away from a second heating step. This is not persuasive because Knoop was not cited to teach the second heating step. Furthermore, placement in a holding tank does not teach away from a second heating step; reheating of the mixture in the tank would easily take place and would not destroy the teachings of Knoop. It is also noted that the teachings of Roerty (a second heating step) would not modify the teachings of Knoop; Roerty's teachings modify the process of Michihata. Therefore, the implications of modifying Knoop with Roerty are immaterial.

### **Conclusion**

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Monica A. Huson whose telephone number is 571-272-1198. The examiner can normally be reached on Monday-Friday 7:00am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 571-272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Monica A Huson

December 9, 2007